

Parker Global Hand Valve Platform (PGHV) DN15 - DN100 (1/2" to 4")

Product Bulletin 81-00 A

Type: Shut-Off, Stop/Expansion, Stop/Check,
Check and Strainer

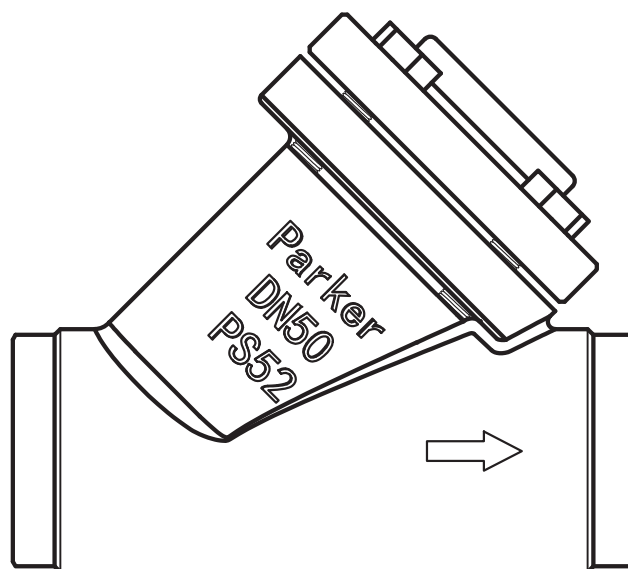


Purpose:

The Parker Global Hand Valve platform is a high quality and economical solution for industrial refrigeration applications. Featuring a 52 bar (754 psi) pressure rating and plated steel construction, these valves offer superior performance and value for a variety of applications.

Available in the following configurations:

- Shut-Off
- Stop/Expansion
- Stop/Check
- Check
- Strainer



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Product Features:

- Suitable for Ammonia, CO₂, and other common refrigerants.
- ASTM A350 forged steel body DN15 – DN 100 (1/2" - 4").
- Fluid Temperature Range: -50°C to 150°C (-58°F to 302°F).
- Stainless steel bolts.
- Complete line of bolted bonnets.
- MAWP: 52 bar (754 psi).
- Conforms to PED 2014/68/EU.
- Available in Angle or Globe-Y body styles.
- Socket Weld, ANSI Butt Weld or DIN Butt Weld connections.
- Plated steel construction for corrosion resistance.



ENGINEERING YOUR SUCCESS.

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Technical Data

Temperature Range -50°C to 150°C (-58°F to 302°F)

Maximum Rated Pressure (MRP) 52 bar (754 psig)

Flow Coefficients and Weights

Shut-Off Valve

Port Size		Globe Y				Angle			
DN	Inch	Kv	Weight [kg]	Cv	Weight [lb]	Kv	Weight [kg]	Cv	Weight [lb]
15	½	6.6	1.3	7.6	2.9	6.5	1.3	7.5	2.9
20	¾	11.4	1.4	13.2	3.1	12.2	1.3	14.1	2.9
25	1	21.3	2.2	24.6	4.8	17.5	2.0	20.2	4.4
32	1¼	27.9	2.4	32.3	5.3	22.4	2.0	25.9	4.4
40	1½	61.4	4.2	71.1	9.2	61.9	2.4	71.7	5.3
50	2	61.4	4.8	71.1	10.6	61.9	4.0	71.7	8.8
65	2½	86.2	12.2	99.8	26.8	135.0	10.0	156.2	22.0
80	3	145.8	13.0	168.7	28.6	235.4	10.5	272.5	23.1
100	4	263.5	15.0	305.0	33.1	244.5	15.0	283.0	33.1

Stop/Check Valve

Port Size		Globe Y				Angle			
DN	Inch	Kv	Weight [kg]	Cv	Weight [lb]	Kv	Weight [kg]	Cv	Weight [lb]
15	½	3.9	1.4	4.5	3.0	5.4	1.3	6.2	2.9
20	¾	9.2	1.5	10.7	3.3	6.8	1.3	7.9	2.9
25	1	12.1	2.5	14.0	5.5	16.4	2.3	19.0	5.0
32	1¼	17.3	2.6	20.0	5.7	23.6	2.3	27.3	5.0
40	1½	51.5	4.8	59.6	10.5	40.0	4.0	46.3	8.8
50	2	57.5	5.2	66.5	11.4	45.6	4.5	52.8	9.9
65	2½	69.8	12.2	80.8	27.0	120.2	10.0	139.1	22.0
80	3	115.8	13.3	134.0	29.2	152.3	10.5	176.3	23.1

Flow Coefficients and Weights

Stop/Expansion Valve

Port Size		Globe Y				Angle			
DN	Inch	Kv	Weight [kg]	Cv	Weight [lb]	Kv	Weight [kg]	Cv	Weight [lb]
15	½	5.9	1.3	6.8	2.9	6.0	1.3	7.0	2.9
20	¾	9.7	1.4	11.2	3.1	11.0	1.3	12.7	2.9
25	1	18.4	2.2	21.3	4.8	14.8	2.0	17.1	4.4
32	1¼	23.7	2.4	27.4	5.3	18.4	2.0	21.3	4.4
40	1½	31.1	4.4	36.0	9.7	59.3	3.6	68.6	7.9
50	2	55.8	4.8	64.6	10.6	53.5	4.0	61.9	8.8
65	2½	86.2	12.8	99.8	28.2	103.4	10.5	119.7	23.1
80	3	121.1	13.5	140.2	29.7	176.3	11.0	204.1	24.2
100	4	235.3	19.7	272.3	43.4	199.0	15.4	230.3	34.0

Check Valve

Port Size		Globe Y				Angle			
DN	Inch	Kv	Weight [kg]	Cv	Weight [lb]	Kv	Weight [kg]	Cv	Weight [lb]
15	½	4.0	1.0	4.6	2.2	4.0	1.4	4.6	3.0
020	¾	6.9	1.1	8.0	2.5	6.8	1.4	7.9	3.0
25	1	9.5	1.8	11.0	3.9	13.0	2.3	15.0	5.1
32	1¼	10.5	1.9	12.1	4.1	13.3	2.3	15.4	5.1
40	1½	56.9	3.8	65.9	8.3	45.6	4.0	52.8	8.8
50	2	59.8	4.3	69.2	9.4	47.7	4.5	55.2	9.9
65	2½	89.3	10.5	103.4	23.1	117.8	10.0	136.3	22.0
80	3	109.8	11.0	127.1	24.2	124.4	10.5	144.0	23.1
100	4	217.5	19.7	251.7	43.4				

Strainer

Port Size		Globe Y				Angle			
DN	Inch	Kv	Weight [kg]	Cv	Weight [lb]	Kv	Weight [kg]	Cv	Weight [lb]
15	½	4.6	1.0	5.3	2.2	7.4	1.3	8.6	2.9
20	¾	7.5	1.1	8.7	2.5	9.3	1.3	10.8	2.9
25	1	12.9	1.7	14.9	3.8	19.4	2.3	22.4	5.0
32	1¼	16.3	1.8	18.9	4.0	23.0	2.3	26.6	5.0
40	1½	24.4	3.7	28.2	8.2	38.4	4.0	44.4	8.8
50	2	34.7	4.2	40.2	9.3	44.4	4.5	51.4	9.9
65	2½	58.7	8.5	67.9	28.2	70.8	9.0	82.0	19.9
80	3	81.9	12.8	94.8	30.9	121.8	10.0	141.0	22.1
100	4	133.1	14.0	154.0	61.7	205.6	14.0	238.0	30.9

Flow Coefficient per Turn

Stop/Expansion

Number of Turns	PGHV Flow Coefficient per Turn Stop/Expansion Valve - Globe "Y" Capacities																	
	13 mm		20 mm		25 mm		32 mm		40 mm		50 mm		65 mm		75 mm		100 mm	
	1/2"		3/4"		1"		1 1/4"		1 1/2"		2"		2 1/2"		3"		4"	
	Kv	Cv	Kv	Cv	Kv	Cv	Kv	Cv	Kv	Cv	Kv	Cv	Kv	Cv	Kv	Cv	Kv	Cv
1	2.8	3.2	2.7	3.1	2.7	3.2	2.1	2.5	2.9	3.4	4.0	4.7	18.6	21.5	9.9	11.5	28.4	32.9
2	3.3	3.8	3.2	3.7	3.3	3.8	3.2	3.7	3.2	3.7	4.5	5.2	22.2	25.7	12.7	14.7	47.6	55.1
3	3.4	3.9	3.9	4.5	4.5	5.3	4.7	5.4	4.0	4.6	5.6	6.5	26.7	30.9	15.6	18.1	54.6	63.2
4	3.9	4.5	4.5	5.2	6.2	7.2	6.4	7.4	5.3	6.2	6.9	7.9	22.1	25.6	18.6	21.5	64.6	74.8
5	4.2	4.8	5.2	6.0	7.8	9.0	9.0	10.4	6.8	7.9	8.4	9.8	28.9	33.4	21.6	25.0	75.5	87.3
6	4.6	5.4	6.0	6.9	9.5	11.0	11.2	13.0	8.6	10.0	10.4	12.1	34.4	39.8	26.0	30.1	82.4	95.4
7	5.0	5.8	7.2	8.4	10.0	11.5	13.8	15.9	10.3	12.0	13.1	15.2	40.3	46.6	30.5	35.3	95.4	110.4
8	5.1	5.9	8.5	9.9	11.9	13.7	15.6	18.1	12.2	14.1	13.1	15.2	49.9	57.7	36.5	42.3	111.1	128.6
9	5.5	6.3	9.6	11.1	14.0	16.2	17.4	20.2	11.7	13.5	15.5	17.9	54.5	63.0	42.6	49.3	126.0	145.9
10	5.9 ^[1]	6.8 ^[1]	9.7 ^[2]	11.2 ^[2]	14.5	16.7	18.6	21.5	14.2	16.4	21.1	24.5	57.9	67.0	48.5	56.1	140.1	162.2
11	—	—	—	—	17.5	20.2	21.1	24.4	14.2	16.4	24.1	27.9	62.1	71.9	55.0	63.6	155.4	179.9
12	—	—	—	—	18.4	21.3	23.6	27.4	15.8	18.2	26.7	30.9	64.6	74.8	61.0	70.6	163.8	189.6
13	—	—	—	—	—	—	—	—	19.1	22.1	29.0	33.6	65.8	76.1	68.3	79.0	175.8	203.5
14	—	—	—	—	—	—	—	—	20.5	23.7	31.7	36.7	71.3	82.5	75.7	87.6	188.4	218.1
15	—	—	—	—	—	—	—	—	20.4	23.6	34.1	39.5	72.6	84.0	82.3	95.3	197.8	228.9
16	—	—	—	—	—	—	—	—	20.5	23.7	45.0	52.1	75.9	87.9	89.1	103.2	209.8	242.9
17	—	—	—	—	—	—	—	—	25.1	29.1	38.7	44.8	79.4	91.9	95.4	110.5	222.2	257.1
18	—	—	—	—	—	—	—	—	30.8	35.6	40.7	47.1	86.1 ^[5]	99.6 ^[5]	100.2	115.9	235.3 ^[7]	272.3 ^[7]
19	—	—	—	—	—	—	—	—	30.9	35.8	43.2	49.9	—	—	105.7	122.3	—	—
20	—	—	—	—	—	—	—	—	31.0	35.9	47.2	54.7	—	—	118.3	136.9	—	—
21	—	—	—	—	—	—	—	—	31.0	35.9	50.3	58.2	—	—	121.1 ^[6]	140.2 ^[6]	—	—
22	—	—	—	—	—	—	—	—	31.0	35.9	53.5	61.9	—	—	—	—	—	—
23	—	—	—	—	—	—	—	—	31.1 ^[3]	36.0 ^[3]	55.8 ^[4]	64.6 ^[4]	—	—	—	—	—	—

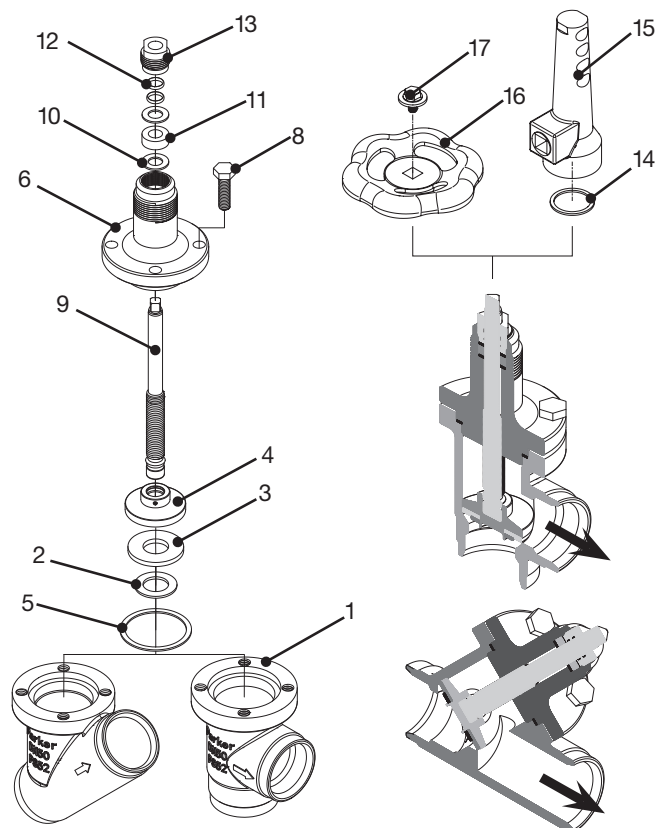
[1] 9 1/2 Turns. [2] 9 1/2 Turns. [3] 22 1/2 Turns. [4] 22 3/4 Turns. [5] 17 3/4 Turns. [6] 20 1/2 Turns. [7] 17 1/2 Turns.

Number of Turns	PGHV Flow Coefficient per Turn Stop/Expansion Valve - Angle Capacities																	
	13 mm		20 mm		25 mm		32 mm		40 mm		50 mm		65 mm		75 mm		100 mm	
	1/2"		3/4"		1"		1 1/4"		1 1/2"		2"		2 1/2"		3"		4"	
	Kv	Cv	Kv	Cv	Kv	Cv	Kv	Cv	Kv	Cv	Kv	Cv	Kv	Cv	Kv	Cv	Kv	Cv
1	3.5	4.1	2.7	3.1	1.9	2.2	3.0	3.4	3.2	3.8	2.7	3.2	22.3	25.8	7.8	9.0	4.4	5.0
2	4.0	4.6	3.2	3.7	2.2	2.5	3.4	3.9	5.0	5.8	2.8	3.2	26.7	30.9	12.8	14.8	9.4	10.9
3	4.1	4.8	3.9	4.5	2.7	3.1	4.1	4.7	7.2	8.3	3.8	4.3	32.1	37.1	15.7	18.2	18.8	21.8
4	4.4	5.1	4.0	4.6	3.7	4.2	5.1	5.9	9.8	11.3	4.8	5.6	26.6	30.8	19.6	22.7	30.1	34.8
5	4.6	5.3	5.8	6.8	4.9	5.7	6.1	7.1	12.3	14.2	6.3	7.3	34.7	40.2	24.9	28.8	44.0	50.9
6	4.7	5.5	7.2	8.3	6.4	7.5	7.7	9.0	15.0	17.3	8.1	9.4	41.3	47.8	30.7	35.5	69.2	80.1
7	5.1	5.9	8.2	9.5	8.5	9.8	9.1	10.5	14.9	17.2	10.1	11.6	48.4	56.0	36.1	41.8	75.2	87.0
8	4.9	5.7	9.4	10.9	9.8	11.4	10.7	12.4	17.1	19.8	12.5	14.5	59.9	69.4	42.3	48.9	91.9	106.4
9	5.8	6.7	11.0	12.7	11.9	13.7	12.3	14.2	20.4	23.6	14.3	16.5	65.5	75.8	50.3	58.3	112.0	129.7
10	6.0 ^[1]	7.0 ^[1]	—	—	12.6	14.5	13.4	15.5	23.0	26.7	15.9	18.4	69.6	80.5	58.5	67.8	129.6	150.0
11	—	—	—	—	14.8	17.1	17.0	19.6	26.9	31.1	19.0	22.0	74.7	86.4	66.5	77.0	140.0	162.0
12	—	—	—	—	14.8 ^[2]	17.1 ^[2]	16.3	18.9	30.8	35.6	21.2	24.5	77.7	89.9	75.6	87.5	141.5	163.8
13	—	—	—	—	—	—	18.4 ^[3]	21.3 ^[3]	35.3	40.8	23.4	27.1	79.1	91.5	85.9	99.4	150.5	174.2
14	—	—	—	—	—	—	—	—	38.8	44.9	27.1	31.4	85.7	99.2	96.0	111.1	160.8	186.2
15	—	—	—	—	—	—	—	—	40.8	47.2	30.1	34.8	87.3	101.0	108.6	125.7	168.6	195.2
16	—	—	—	—	—	—	—	—	92.0	106.5	32.5	37.6	91.3	105.7	119.6	138.4	180.3	208.7
17	—	—	—	—	—	—	—	—	48.4	56.1	35.9	41.5	95.4	110.4	129.3	149.6	192.0	222.3
18	—	—	—	—	—	—	—	—	50.3	58.2	39.4	45.7	103.4 ^[4]	119.7 ^[4]	141.2	163.4	198.9 ^[6]	230.3 ^[6]
19	—	—	—	—	—	—	—	—	53.6	62.0	42.1	48.8	—	—	153.6	177.8	—	—
20	—	—	—	—	—	—	—	—	55.8	64.6	45.1	52.2	—	—	166.6	192.8	—	—
21	—	—	—	—	—	—	—	—	59.3	68.6	47.5	55.0	—	—	176.3 ^[5]	204.1 ^[5]	—	—
22	—	—	—	—	—	—	—	—	—	—	49.6	57.5	—	—	—	—	—	—
23	—	—	—	—	—	—	—	—	—	—	53.9	62.4	—	—	—	—	—	—
24	—	—	—	—	—	—	—	—	—	—	53.5	61.9	—	—	—	—	—	—

[1] 9 1/4 Turns. [2] 11 1/4 Turns. [3] 12 3/4 Turns. [4] 17 1/2 Turns. [5] 20 1/2 Turns. [6] 17 1/2 Turns.

Operation, Cross Section View, Material, and Parts

Shut-Off Valve



Shut-Off Valve Parts List

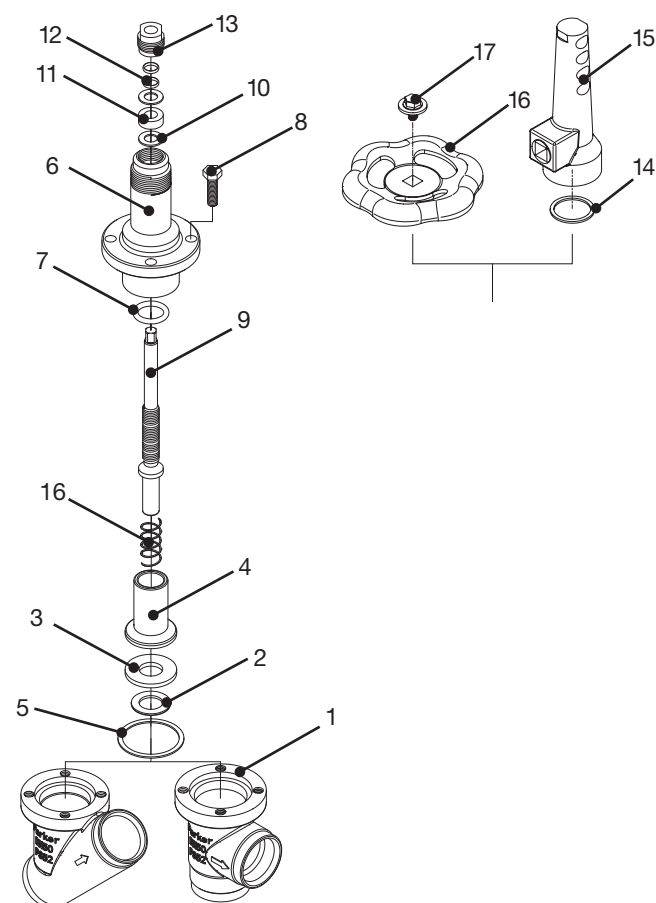
No.	Description	Material	Qty
1	Valve Seat (Body)	A350	1
2	Flat Washer	20# Steel	1
3	Sealing Gasket	PTFE	1
4	Valve Clack	20# Steel	1
5	Bonnet Gasket	AFM34	1
6	Bonnet	A350	1
8	Screw	A2-70	4
9	Stem	SUS 304 (1.4301)	1
10	Bottom Ring	1.0715	1
11	Packing (Compound Gasket)	Graphite + PTFE	1
12	O-Ring	CR (Neoprene)	1
13	Packing Nut	Aluminum Alloy	1
14	O-ring, Seal Cap	Cr	1
15	Seal Cap, Grey (Metal)	Aluminum	1
16	Hand Wheel, Blue	Aluminum	1
17	Washer/Nut	20# Steel	1

Function and Design:

The hand shut-off valves are designed to stop the flow of refrigerant to allow for service or routine maintenance of the refrigeration system. These valves are meant to be operated in their full open or full closed position.

The hand shut-off valves are available in both angle and globe-Y body configurations and either standard or extended bonnet versions. The extended bonnet allows for additional insulation to be used.

Stop/Check Valve

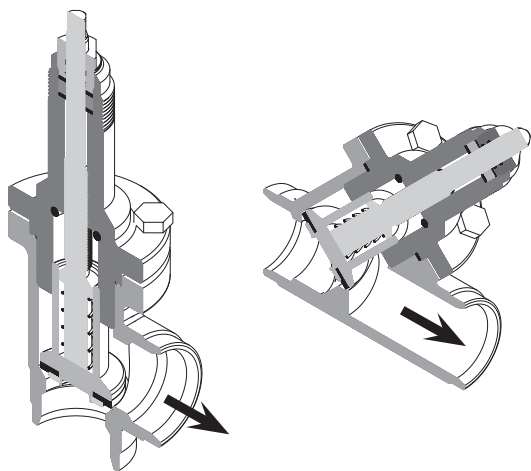


Stop/Check Valve Parts List

No.	Description	Material	Qty
1	Valve Seat (Body)	A350	1
2	Flat Washer	20# Steel	1
3	Sealing Gasket	PTFE	1
4	Valve Clack	20# Steel	1
5	Bonnet Gasket	AFM34	1
6	Bonnet	A350	1
7	O-Ring	CR (Neoprene)	1
8	Screw	A2-70	4
9	Stem	SUS 304 (1.4301)	1
10	Bottom Ring	1.0715	1
11	Packing (Compound Gasket)	Graphite + PTFE	1
12	O-Ring	CR (Neoprene)	1
13	Packing Nut	Aluminum Alloy	1
16	Spring	Spring Steel	1
14	O-ring, Seal Cap	Cr	1
15	Seal Cap, Green	Aluminum	1
16	Hand Wheel, Red	Aluminum	1
17	Washer/Nut	20# Steel	1

Operation, Cross Section View, Material, and Parts

Stop/Check Valve (Cont'd)

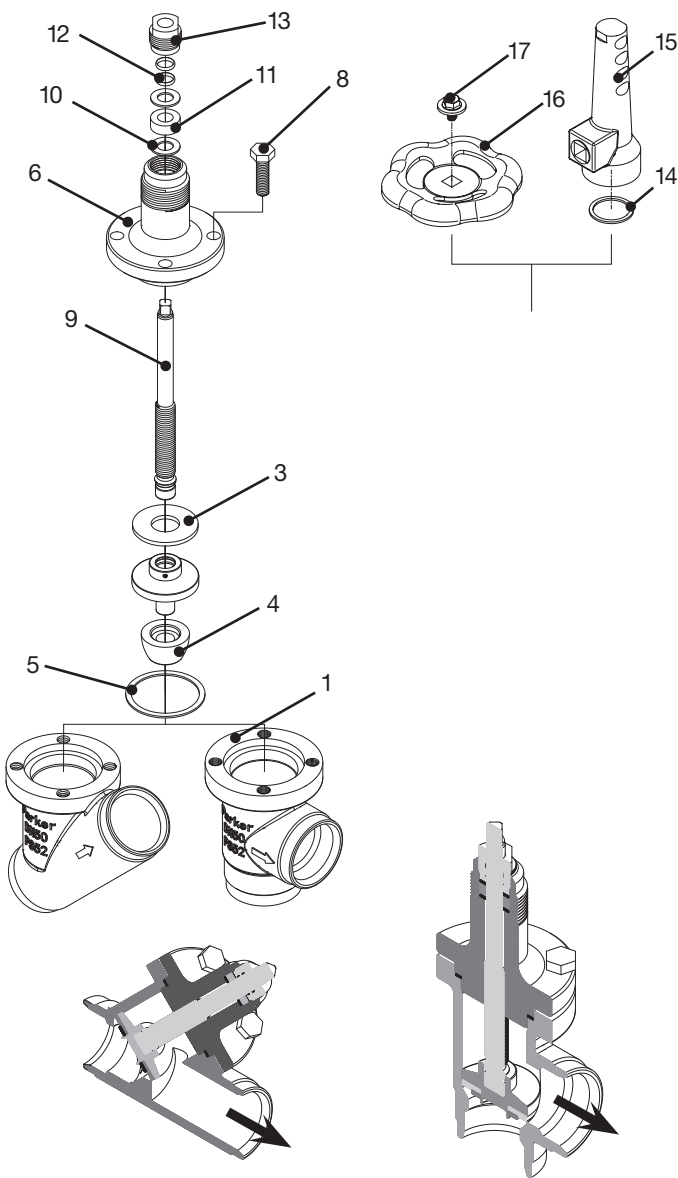


Function and Design:

The stop/check valves are designed to provide two functions: in the fully closed positions the valves will stop the flow of refrigerant to allow for service or routine maintenance of the refrigeration system; and in the full open position they will provide a check function which will prevent the flow of refrigerant in the reverse direction. These valves are meant to be operated in their full open or full closed position.

The stop/check valves are available in both angle and globe-Y body configurations and either standard or extended bonnet versions. The extended bonnet allows for additional insulation to be used.

Stop/Expansion Valve



Stop/Expansion Valve Parts List			
No.	Description	Material	Qty
1	Valve Seat (Body)	A350	1
3	Sealing Gasket	PTFE	1
4	Valve Clack	20# Steel	1
5	Bonnet Gasket	AFM34	1
6	Bonnet	A350	1
8	Screw	A2-70	4
9	Stem	SUS 304 (1.4301)	1
10	Bottom Ring	1.0715	1
11	Packing (Compound Gasket)	Graphite + PTFE	1
12	O-Ring	CR (Neoprene)	1
13	Packing Nut	Aluminum Alloy	1
14	O-ring, Seal Cap	Cr	1
15	Seal Cap, Yellow	Aluminum	1
16	Hand Wheel, Yellow	Aluminum	1
17	Washer/Nut	20# Steel	1

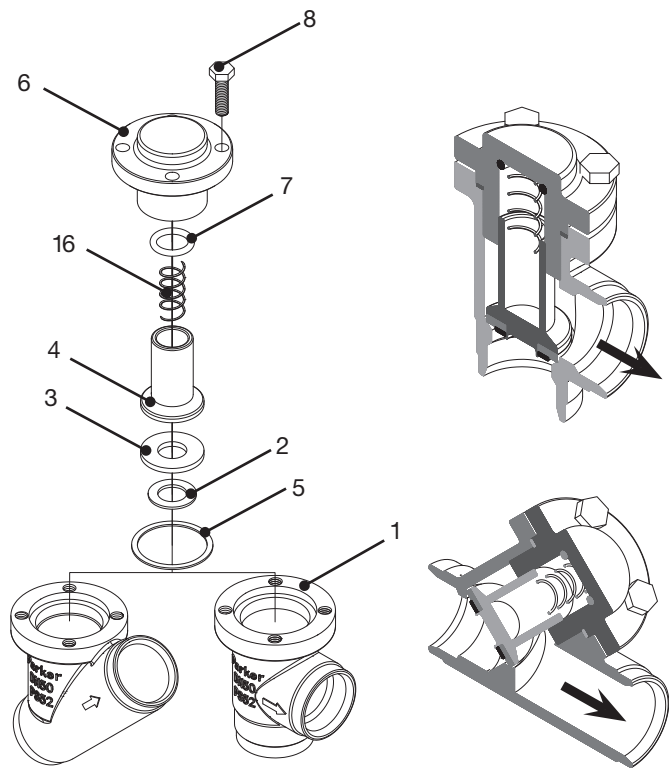
Function and Design:

The stop/expansion valves are designed to modulate the flow of refrigerant for liquid feed or expansion applications. By varying the percent open the flow can be adjusted to suit a variety of operating conditions. These valves also serve as shut-off valves in the full closed position.

The stop/expansion valves are available in both angle and globe-Y body configurations and either standard or extended bonnet versions. The extended bonnet allows for additional insulation to be used.

Operation, Cross Section view, Material, and Parts

Check Valve



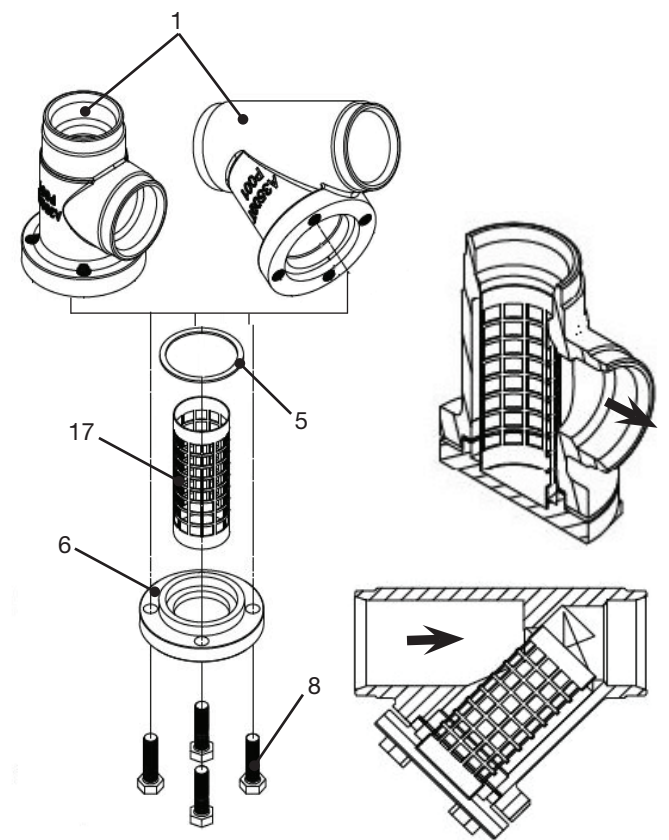
Check Valve Parts List			
No.	Description	Material	Qty
1	Valve Seat (Body)	A350	1
2	Flat Washer	20# Steel	1
3	Sealing Gasket	PTFE	1
4	Valve Clack	20# Steel	1
5	Bonnet Gasket	AFM34	1
6	Bonnet	A350	1
7	O-Ring	CR (Neoprene)	1
8	Screw	A2-70	4
16	Spring	Spring Steel	1

Function and Design:

The check valves are designed to prevent the flow of refrigerant in the reverse direction. These valves feature a soft seat and

The check valves are available in both angle and globe-Y body configurations.

Strainer



Strainer Parts List			
No.	Description	Material	Qty
1	Valve-Filter Seat (Body)	A350	1
5	Bonnet Gasket	AFM34	1
6	Bonnet	A350	1
8	Screw	A2-70	4
17	Filter Element	SUS 304 (1.4301)	1

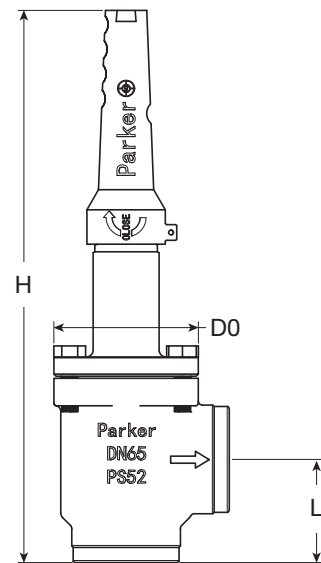
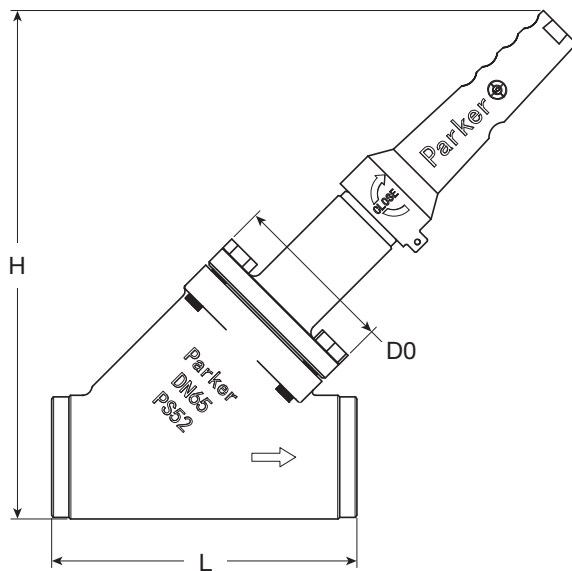
Function and Design:

The strainers are designed to reduce the amount of impurities present in the flow of refrigerant. The strainers are available in various mesh sizes (0.5 mm, 0.25 mm and 0.1 mm) (35 mesh, 72 mesh, 140 mesh) and are offered in both angle and globe-Y body configurations which makes them suitable for various applications.

Dimensions

Shut-Off Valve and Stop/Expansion Valve

DN	Inch	D0		BW Angle				BW Globe Y				SW Angle				SW Globe Y			
				L		H		L		H		L		H		L		H	
		mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch
15	½	65	2.56	40	1.57	194	7.64	106	4.17	143	5.63	40	1.57	194	7.64	110	4.33	148	5.83
20	¾	65	2.56	40	1.57	194	7.64	106	4.17	143	5.63	41	1.61	195	7.68	117	4.61	148	5.83
25	1	75	2.95	51	2.01	245	9.65	128	5.04	186	7.32	51	2.01	245	9.65	135	5.31	191	7.52
32	1¼	75	2.95	51	2.01	245	9.65	128	5.04	186	7.32	51	2.01	245	9.65	138	5.43	191	7.52
40	1½	95	3.74	60	2.36	293	11.54	164	6.46	233	9.17	60	2.36	293	11.54	168	6.61	238	9.37
50	2	95	3.74	60	2.36	293	11.54	164	6.46	233	9.17	63	2.48	296	11.65	172	6.77	238	9.37
65	2½	105	4.13	75	2.95	405	15.94	195	7.68	328	12.91	82	3.23	409	16.10	202	7.95	333	13.11
80	3	115	4.53	80	3.15	429	16.89	212	8.35	352	13.86	—	—	—	—	—	—	—	—
100	4	155	6.10	106	4.17	421	16.57	264	10.39	353	13.90	—	—	—	—	—	—	—	—



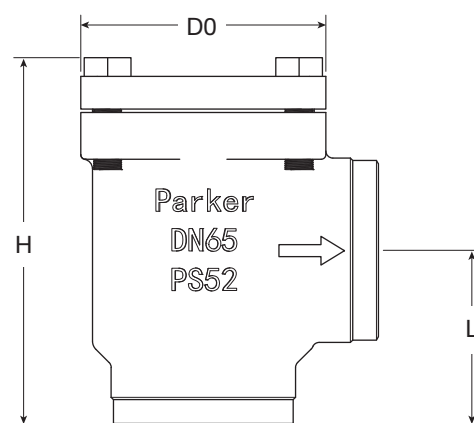
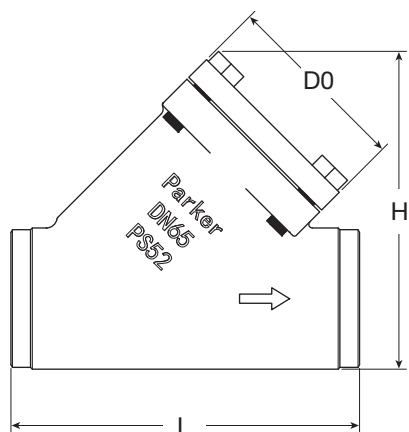
Stop/Check Valve

DN	Inch	D0		BW Angle				BW Globe Y				SW Angle				SW Globe Y			
				L		H		L		H		L		H		L		H	
		mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch
15	½	65	2.56	40	1.57	215	8.46	106	4.17	158	6.22	40	1.57	215	8.46	110	4.33	163	6.42
20	¾	65	2.56	40	1.57	215	8.46	106	4.17	158	6.22	41	1.61	216	8.50	117	4.61	163	6.42
25	1	75	2.95	51	2.01	273	10.75	128	5.04	191	7.52	51	2.01	273	10.75	135	5.31	196	7.72
32	1¼	75	2.95	51	2.01	273	10.75	128	5.04	191	7.52	51	2.01	273	10.75	138	5.43	196	7.72
40	1½	95	3.74	60	2.36	321	12.64	164	6.46	253	9.96	60	2.36	321	12.64	168	6.61	258	10.16
50	2	95	3.74	60	2.36	321	12.64	164	6.46	253	9.96	63	2.48	324	12.76	172	6.77	258	10.16
65	2½	105	4.13	75	2.95	418	16.46	195	7.68	337	13.27	82	3.23	422	16.61	202	7.95	342	13.46
80	3	115	4.53	80	3.15	436	17.17	212	8.35	356	14.02	—	—	—	—	—	—	—	—

Dimensions

Check Valve & Strainer

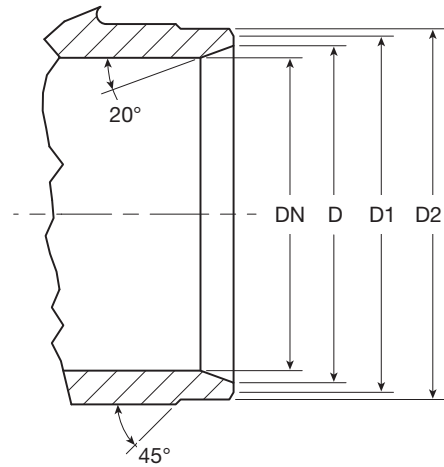
DN	Inch	D0		BW Angle				BW Globe				SW Angle				SW Globe			
				L		H		L		H		L		H		L		H	
		mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch
15	½	65	2.56	40	1.57	101	3.98	106	4.17	95	3.74	40	1.57	101	3.98	110	4.33	100	3.94
20	¾	65	2.56	40	1.57	101	3.98	106	4.17	95	3.74	41	1.61	102	4.02	117	4.61	100	3.94
25	1	75	2.95	51	2.01	116	4.57	128	5.04	115	4.53	51	2.01	116	4.57	135	5.31	120	4.72
32	1¼	75	2.95	51	2.01	116	4.57	128	5.04	115	4.53	51	2.01	116	4.57	138	5.43	120	4.72
40	1½	95	3.74	60	2.36	150	5.91	164	6.46	150	5.91	60	2.36	150	5.91	168	6.61	155	6.10
50	2	95	3.74	60	2.36	150	5.91	164	6.46	150	5.91	63	2.48	153	6.02	172	6.77	155	6.10
65	2½	105	4.13	75	2.95	160	6.30	195	7.68	173	6.81	82	3.23	164	6.46	202	7.95	178	7.01
80	3	115	4.53	80	3.15	173	6.81	212	8.35	193	7.60	—	—	—	—	—	—	—	—
100	4	—	0.00	—	0.00	—	0.00	—	0.00	—	0.00	—	—	—	—	—	—	—	—



Dimensions

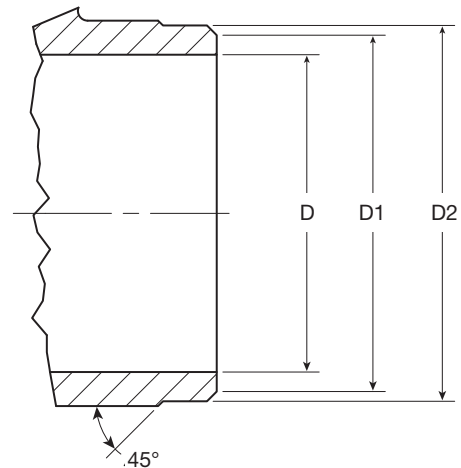
DIN End Connection

DN	Inch	D0-0.3		D1-0.8		D2	
		mm	Inch	mm	Inch	mm	Inch
15	½	17.0	0.67	21.0	0.83	22.0	0.87
20	¾	22.0	0.87	26.0	1.02	28.0	1.10
25	1	28.5	1.12	32.5	1.28	34.0	1.34
32	1¼	37.0	1.46	41.0	1.61	43.0	1.69
40	1½	43.0	1.69	47.0	1.85	49.0	1.93
50	2	54.5	2.15	58.5	2.30	61.0	2.40
65	2½	70.0	2.76	74.0	2.91	77.0	3.03
80	3	82.0	3.23	86.0	3.39	90.0	3.54
100	4	106.5	4.19	110.5	4.35	115.0	4.53



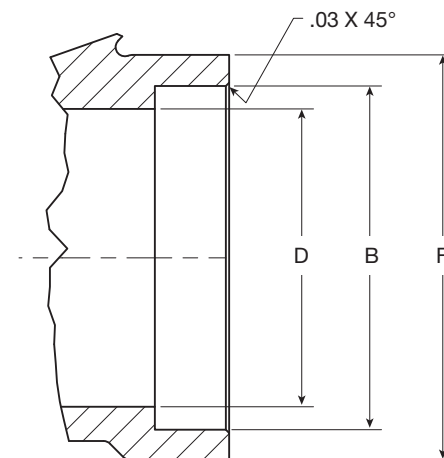
ANSI BW End Connection

DN	Inch	D+0.8		D1+0.8		D2		Schedule
		mm	Inch	mm	Inch	mm	Inch	
15	½	13.9	0.55	17.1	0.67	21.3	0.84	Sch80
20	¾	18.9	0.74	22.1	0.87	26.7	1.05	Sch80
25	1	24.3	0.96	27.5	1.08	33.4	1.31	Sch80
32	1¼	32.5	1.28	35.7	1.41	42.2	1.66	Sch80
40	1½	38.1	1.50	41.3	1.63	48.3	1.90	Sch80
50	2	52.5	2.07	55.7	2.19	60.3	2.37	Sch40
65	2½	62.7	2.47	65.9	2.59	73.0	2.87	Sch40
80	3	77.9	3.07	81.1	3.19	88.9	3.50	Sch40
100	4	102.3	4.03	105.5	4.15	114.3	4.50	Sch40



SW End Connection

DN	Inch	F		B±0.13		D±0.38	
		mm	Inch	mm	Inch	mm	Inch
15	½	33.2	1.31	22.0	0.87	16.6	0.65
20	¾	39.0	1.54	27.3	1.07	21.7	0.85
25	1	47.0	1.85	34.0	1.34	27.4	1.08
32	1¼	56.5	2.22	42.8	1.69	35.8	1.41
40	1½	63.0	2.48	48.9	1.93	41.6	1.64
50	2	73.0	2.87	61.4	2.42	53.3	2.10
65	2½	89.0	3.50	74.1	2.92	64.2	2.53



Installation

These operating instructions are following the Directive 2014/68/EU, Pressure Equipment Directive, Appendix I, sub-clause 3.4 (DGR or PED). A hazard analysis is available for the valves mentioned in these operating instructions. Activities relating to the installation, commissioning, use and maintenance of the valves described in the following must take place only for the intended purpose and by authorized persons. During commissioning, use and maintenance, the information on wearing Personal Protective Equipment must be observed.

1. General Installation Guidelines

1.1 Markings

All valves are marked according to EN 12284 on their housings as follows:

- Manufacturer's Name (PARKER)/Year of Manufacture
- Material Lot Number and Supplier Symbol
- Type Designation
- Permissible Operating Pressure (PS)
- Nominal Diameter DN (mm) – Nominal Pressure PN (bar)
- Material Designation
- Flow Direction Arrow
- CE Mark from DN 32 (1-1/4")

Types:

Hand Valves, Check Valves and Strainers

Globe body type: 7G

Angle body type: 7A

The different types can contain the following variations or combinations of variations that identify the material or type:

SO	Shut-Off Valve
RV.SO	Stop/Expansion
CV	Check valve
CV.SO	Stop/Check Valve
ST	Strainer

1.2 Surface Protection

These valves are plated.

After start-up and commissioning, the valve stem and packing which is exposed to atmosphere should be covered with grease. It is recommended to use a plastic dustproof bag to keep the valve stem clean. Keeping the stem clean will prevent the o-ring from wearing down.

1.3 General Installation Instructions

Please protect uninstalled valves from dirt and moisture while on site.

The valves are suitable for ammonia, CO₂, and other common refrigerants. The valves must be checked for their suitability prior to installation.

Valve openings and sealing surfaces are protected against damage and fouling by plastic plugs or caps during shipment. It must be ensured prior to installation that these plastic plugs and caps have been removed.

The valves are provided with an arrow indicating the direction of flow. For shut-off valves, this arrow indicates the preferred direction of flow in which minimum pressure loss occurs.

Installation of connecting pipes and their supports must be installed correctly so that the valve housing is not subjected to harmful shearing and bending forces and vibration.

The supplied caps are to prevent the valve spindles against fouling and atmospheric elements.

1.4 Installing Valves with Welded Connections

Contractors need to follow a WPS (Welding Procedure Specification) for all welding. The procedure must be qualified and the welder doing the weld must be qualified to perform that procedure.

The valve stem should be open during welding. Normally, it is not necessary to disassemble valves for welding. However, if welding is prolonged enough to overheat the body, a wet rag should be wrapped around the valve bonnet and upper body during welding.

When welding valves, absolute cleanliness must be ensured, as any foreign bodies and dirt introduced into the interior of the housing can damage the sealing surfaces and spindle guides. If necessary, the valve housings must be cleaned on the inside after welding. Prior to the removal of the bonnet, it is recommended to mark the bonnet and housing, with a punch, so that the valve can be refitted to the associated valve housing and in the same position.

PGHV Torque Recommendations											
Port Size		Bolt Size	Qty	Torque							
				Bolts		Stem		Back Sealing (Stem)		Packing Nut	
mm	Inch			N m	ft lb	N m	ft lb	N m	ft lb	N m	ft lb
15 - 20	½ - ¾	M8 x 25mm Cap Screw	4	20	177.0	20	177.0	25	221.3	20	177.0
25 - 32	1 - 1¼	M8 x 30mm Cap Screw	4	30	265.5	20	177.0	30	265.5	25	221.3
40 - 50	1½ - 2	M10 x 34.5mm Hex Bolt	4	50	442.5	25	221.3	45	398.3	25	221.3
65 - 80	2½ - 3	M12 x 34.5mm Hex Bolt	4	90	796.7	30	265.5	30	265.5	30	265.5
100	4	M12 x 34.5mm Hex Bolt	4	60	531.0	40	354.0	50	442.5	30	265.5

1.5 Shut-Off and Stop/Expansion Valves

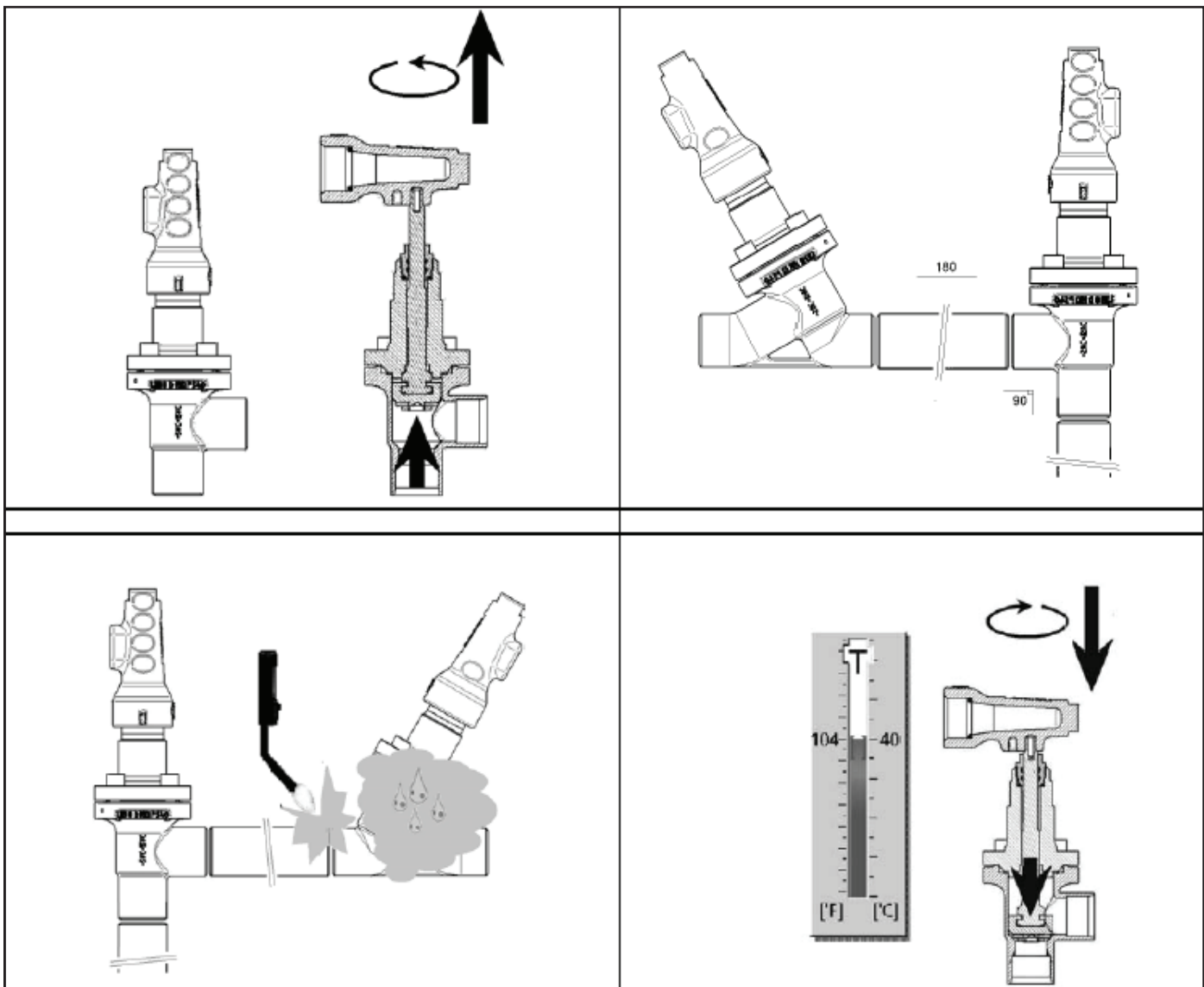
Shut-off valves have grey painted seal caps and hand wheels. Stop/Expansion valves have yellow painted seal caps and hand wheels.

The valves can be installed at any position but should follow the arrow on the valve body which indicates the direction of flow.

When installing valves in a plant, the valve seat should be disassembled from valve body before welding, please protect the valve disc seal (PTFE) when placing valve seat in a safe area. Absolute cleanliness must be ensured after welding, if necessary, the valve housings must be cleaned on the inside. Apply lubricant to re-install the valve seat disc. Do not damage valve disc seal and bonnet gasket. Please tighten the bonnet screws with the appropriate torque. In cases where valves are installed without disassembly, the valve disc should be in at the mid stroke position or fully opened position while welding. Avoid the flame close to valve disc while welding and wrap with cool wet rag around valve body. Tungsten gas should be used for welding. Please don't close the valve when valve body has not been cooled.

⚠ WARNING!

- Only qualified personnel should install and maintain the valves.
- Installation and maintenance should comply with national regulations.
- Valves should only be use within the operation range of products.
- Spot welding is not enough for valve port connection.
- Valve body should be painted (except for the stem) to protect against external corrosion after installation.
- Keep packing gland nut and stem clean, provide grease if needed, to against corrosion.
- Be careful of overheating while valve welding.
- Be careful refrigerant leakage while remove valve packing gland nut, use safety glasses or a safety face shield to protect eyes, protective equipment should be readily available.



1.6 Check Valves

Stop/Check valves have green painted seal caps and hand wheels.

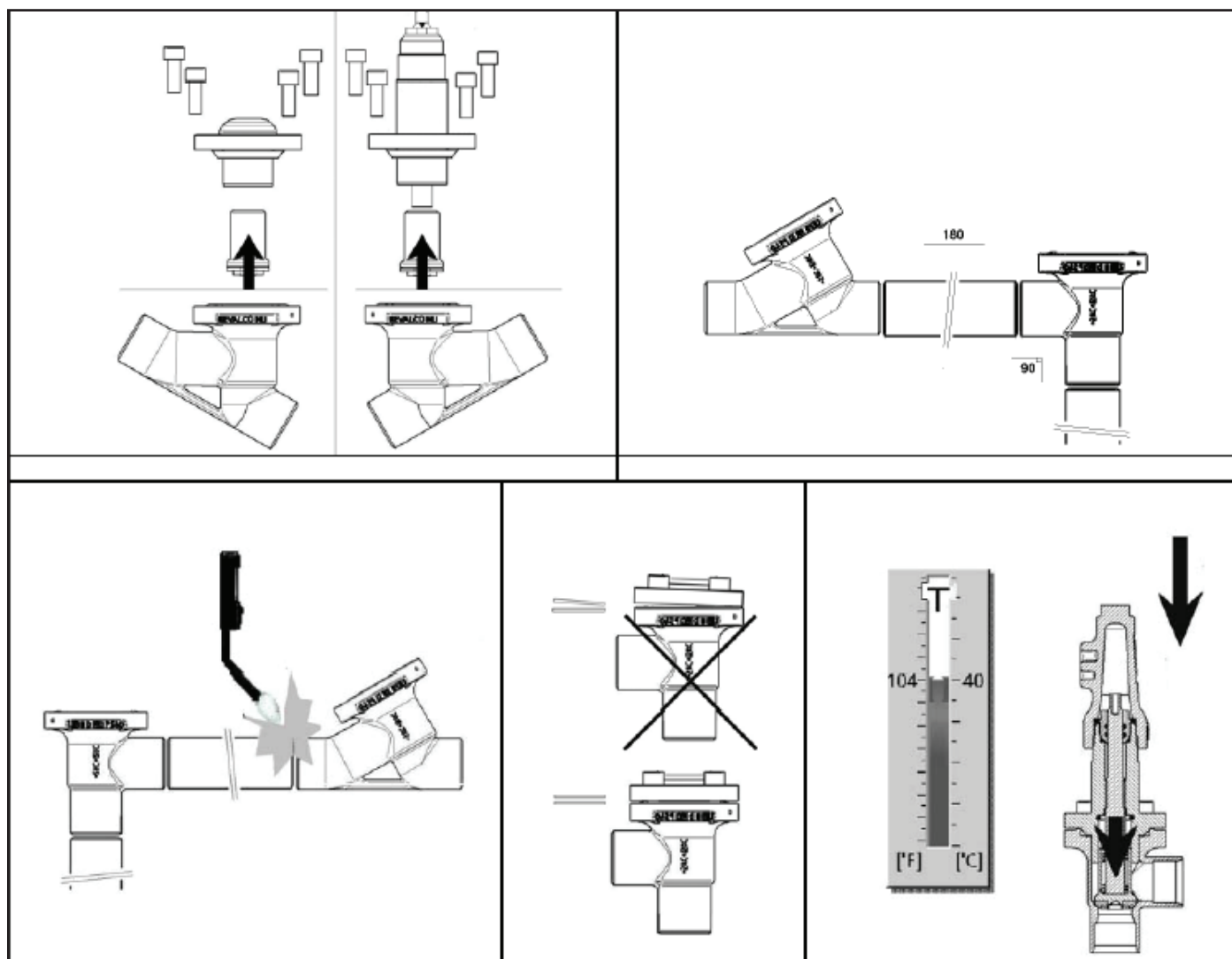
The valves can be installed at any position but should follow the arrow on the valve body which indicates the direction of flow. To avoid the disc seal gasket to contact the valve body, the valve bonnets should be disassembled before welding. Please protect the valve disc seal (PTFE) and place valve seat in a safe, clean area. Tungsten gas should be used for welding. Please do not assemble the valve when valve body has not been cooled.

Clean the valve housing on the inside before re-assemble the seat disc and spring back into valve body, and assemble bonnet with bolts, cross tightening 4 bolts first, then tightening all the bolts with wrench.

After reassembling the stop/check valve, turn the valve stem close to press down the valve disc seat. When opening valve, turn stem out to the fully open position, ensuring the valve will open for normal operation. Metallic chattering should be avoided to ensure operating performance and life cycle.

⚠ WARNING!

- Only qualified personnel should install and maintain the valves.
- Installation and maintenance should comply with national regulations.
- Valves should only be use within the operation range of products.
- Spot welding is not enough for valve port connection.
- Valve body should be painted (except for the stem) to protect against external corrosion after installation.
- Keep clean on packing gland nut and stem, provide grease if needed, to against corrosion.
- Keep packing gland nut and stem clean, provide grease if needed, to against corrosion.
- Be careful of refrigerant leakage while remove valve packing gland nut, use safety glasses or a safety face shield to protect eyes, protective equipment should be readily available.



1.7 Information on Strainers

Marking on the valve bonnet: ST

When fitting filters, it must be ensured that the bonnet points vertically downwards as far as possible. This enables the bonnet to be removed together with the screen insert downwards without dirt residues remaining in the filter.

2. Commissioning

When commissioning new systems and after completing repairs, shut-off valves must be opened as far as possible. Any dirt and foreign bodies in the system will be collected in the filters and need to be removed.

The function and tightness of the installed valves must be checked by a leak test and after reaching operating pressures and temperatures. Valve caps must be removed during this process. Any leakage can be mitigated by retightening the packing nut.

CAUTION!

Liquid refrigerant can discharge from leaky valves in a refrigeration system. Risk of burns! Personal protective equipment (e.g. safety goggles, protective gloves) should be used.

Leaks at the bonnet seal can be prevented by tight ending the bonnet screws evenly with a torque wrench. The valve must be fully open to avoid pressing the shut-off element against the valve seat. The bonnet must lie flat on the body.

3. Usage

Valves must only be used for the intended purpose. This can only be ensured when the operating instructions of the system manufacturer are observed.

Shut-Off and Stop/Expansion Valves

Shut-off and stop/expansion valves (when looking down on the bonnet) can be closed by turning the hand wheel clockwise and opened by turning the hand wheel counter-clockwise.

Shut-off valves must only be operated when fully opened (against the back seal) or operated fully closed (on the valve seat).

Any constriction of the fluid flow must be reserved for stop/expansion valves only. An excessive fluid flow in the gap between the shut-off element and valve seat of shut-off valves can lead to cavitation and erosion which could turn into leaks.

Caps

The caps must be removed for operating the valves.

CAUTION! When unscrewing the cap, suitable personal protective equipment (e.g. safety goggles, protective gloves) should be used.

Prior to removal, the caps must be freed from ice. Located around the cap thread is a pressure relief hole to allow fluid to escape. This hole must be kept free in any event. When cleaning a clogged pressure relief hole, the operator should stand so that the hole points away from his body to avoid possibly being sprayed by discharging fluid.

4. Maintenance

4.1 General

PGHV valves are largely maintenance free. The materials have been selected so that wear, especially between components subject to friction, is kept to a minimum. For reliability reasons, all valves, particularly those that are rarely operated or difficult to access, should be tested for tightness and smooth operation as part of system inspections. If the valve bonnet is disassembled for maintenance purposes, new seals must be used when reassembled.

4.2 Back Seat

With the shut-off and stop/expansion valves fully open, the back seat of the spindles seals the packing gland space against the valve interior, so that repacking of the packing gland is also possible under pressure in the valve interior.

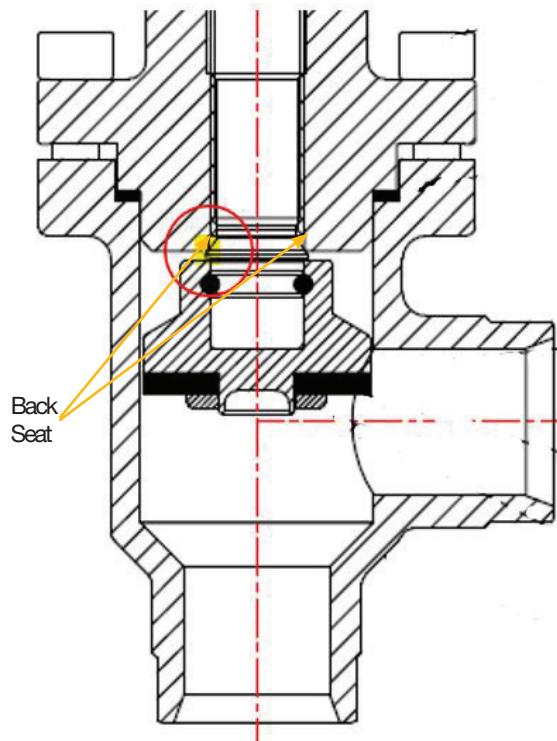
ATTENTION!

Deposits and dirt can cause leakage.

Suitable protective equipment (e.g. safety goggles and protective gloves) should be used.

Working Steps:

1. Turn the spindle with the hand wheel in the "open" direction (anticlockwise), until the sealing surface of the spindle makes contact with the sealing surface of the bonnet.
2. Screw the stem out a half turn and turn off back suddenly to achieve a good seal.
3. Remove the hand wheel to prevent the spindle moving.



4.3 Change of Packing and O-ring

The maintenance of changing packing and o-ring can be done while system is operating without depressurization; follow the steps below:

1. Fully open the valve until the sealing surface of the stem makes contact with the sealing surface of the bonnet.
2. Remove hand wheel and remove packing nut in anticlockwise direction.
3. Remove and clean packing gland and packing nut, assemble with new o-ring and packing by turning clockwise, tighten gland nut.
4. Don't over tighten the gland nut while reassembling, in the event of leaks at the stuffing box, the gland nut should be retightened. Clean valve stem shaft before reassembling, certain grease can be used for valve stem if needed.

ATTENTION!

When retightening the gland nut, suitable personal protective equipment (i.e. safety goggles and protective gloves) should be used.

4.4 Opening Valves and Strainers in Refrigerant Circuits

The interior space of valves and strainers in refrigerating systems is subject to system pressure. The valves and filters must be rendered pressure less prior to opening and free from liquid refrigerant (see operating instructions of refrigerating system). With a drop in pressure, the valves can become very cold through the expansion of liquid refrigerant. In order to prevent the ingress of air moisture, the valves must only be opened after heating to ambient temperature. An open flame should not be used to accelerate heating!

ATTENTION!

Suitable personal protective equipment (e.g. safety goggles and protective gloves) should be used.

4.5 Strainers

For cleaning the strainer insert, the operating instructions of the system manufacturer must be reviewed. Suitable cleaning agents and methods depend on the fluid.

When refitting the upper part, a new seal must be used, and the screws torqued down to the specified torque in the torque table.

NOTE: A tightness test must be carried out on completion of all maintenance work.

PGHV Service Pointers		
Symptom	Possible Cause	Solution
Leak at packing gland between stem	Packing nut is not tightened	Tighten gland nut clockwise
	O-ring wear out	Change o-ring and packing
	Stem damaged or bended	Change stem
Leak at bonnet flange	Cover bolts are not tightened	Retighten cover bolts
	Force on bolts not equal	Reassemble bonnet
	Flange gasket damaged	Change flange gasket
Is not closing tightly (internal leak)	Valve seal disc is damaged	Change valve seal disc
	Valve body seat surface damaged	Polish valve body seat surface
	Valve is not fully closed by spring, because spring has not enough compression (stop/check valve only)	Turn stem a little bit in clock- wise for compression in the spring (stop/check valve only)
Stem stuck	No maintenance on stem	Supply grease on stem thread
	System too dirty	Clean and service the stem or change seat disc

Repair Kits

PGHV Repair Kits				
Port Size		Bonnet's Gasket ^[1]		
mm	Inch	Part Number	Qty	Description
15 - 20	½ - ¾	251813	1	Gasket Kit, PGHV Body DN15/20
25 - 32	1 - 1¼	251814	1	Gasket Kit, PGHV Body DN25/32
40 - 50	1½ - 2	251815	1	Gasket Kit, PGHV Body DN40/50
65	2-½	251816	1	Gasket Kit, PGHV Body DN65
80	3	251817	1	Gasket Kit, PGHV Body DN80
100	4	—	—	—

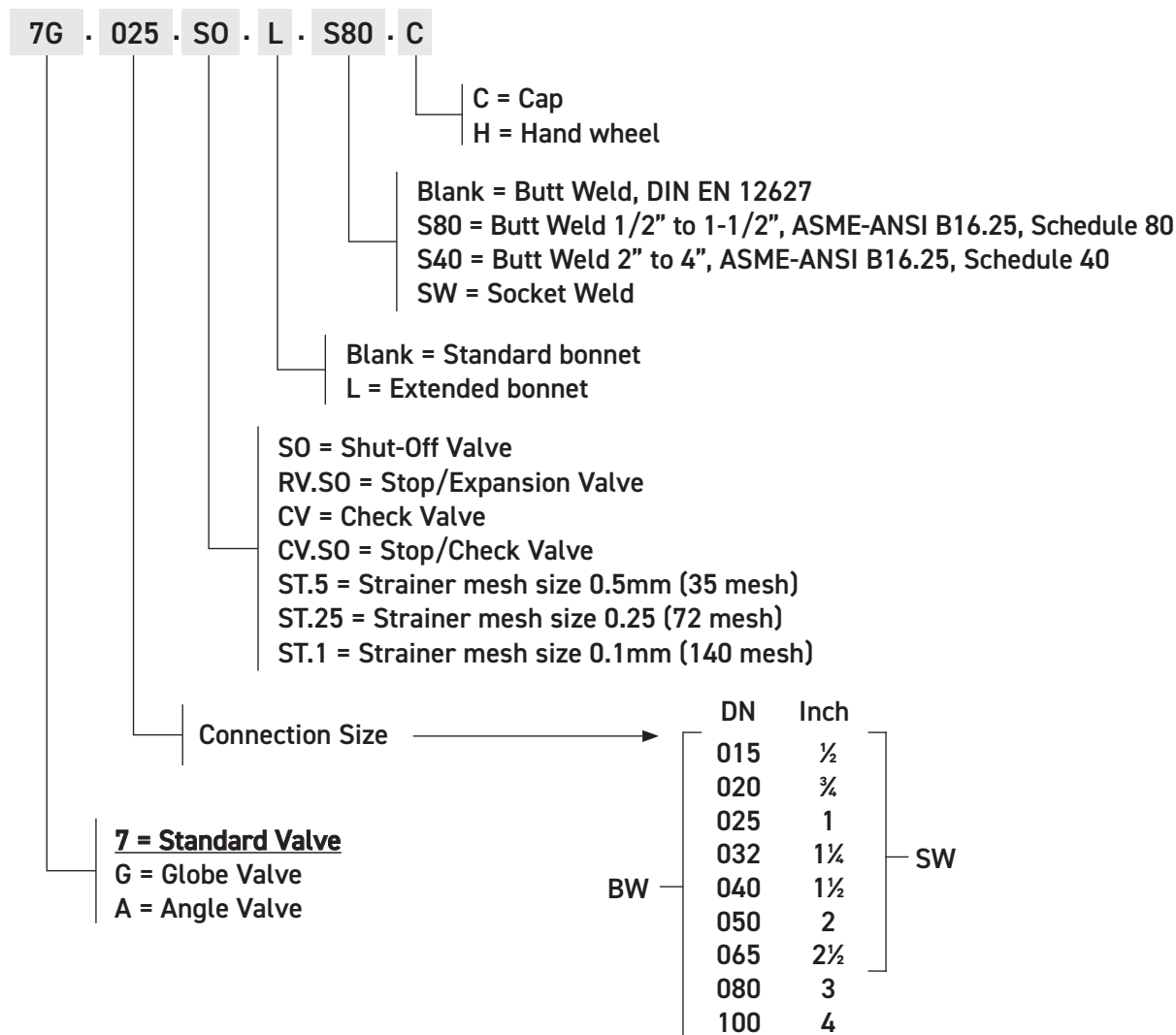
PGHV Seal Caps Kits ^[2]										
Port Size		Hand Shut-Off Valve (Gray Color or Metal)			Stop/Check Valve (Green Color)			Stop/Expansion Valve (Yellow Color)		
mm	Inch	Part Number	Qty	Description	Part Number	Qty	Description	Part Number	Qty	Description
15 20	½ ¾	251822	1	Sea Cap Kit, Shut-Off PGHV DN15/20	251864	1	Sea Cap Kit, Stop/Check PGHV DN15/20	251867	1	Sea Cap Kit, Stop/Expan- sion PGHV DN15/20
25 50	1 2	251823	1	Sea Cap Kit, Shut-Off PGHV DN25/50	251865	1	Sea Cap Kit, Stop/Check PGHV DN25/50	251868	1	Sea Cap Kit, Stop/Expan- sion PGHV DN25/50
65 100	2-½ 4	251824	1	Sea Cap Kit, Shut-Off PGHV DN65/100	251866	1	Sea Cap Kit, Stop/Check PGHV DN65/100	251869	1	Sea Cap Kit, top/Expan- sion PGHV DN65/100

[1] The gasket for bonnet can be used with strainers, check valves, hand shut-off valves, stop/check valves and stop/expansion valves.

[2] Seal caps includes an O-ring.

How To Order PGHV

Part Number



Safe Operation (See Bulletin RSBHV)

People doing any work on a refrigeration system must be qualified and completely familiar with the system and the Refrigerating Specialties Division valves involved, or all other precautions will be meaningless. This includes reading and understanding pertinent Refrigerating Specialties Division Product Bulletins and Safety Bulletin RSB prior to installation or servicing work.

Where cold refrigerant liquid lines are used, it is necessary that certain precautions be taken to avoid damage which could result from liquid expansion. Temperature increase in a piping section full of solid liquid will cause high pressure due to the expanding liquid which can possibly rupture a gasket, pipe or valve. All hand valves isolating such sections should be marked, warning against accidental closing, and must not be closed until the liquid is removed. Check valves must never be installed upstream of solenoid valves, or regulators with electric shut-off, nor should hand valves upstream of solenoid valves or downstream of check valves be closed until the liquid has been removed.

It is advisable to properly install relief devices in any section where liquid expansion could take place. Avoid all piping or control arrangements which might produce thermal or pressure shock.

For the protection of people and products, all refrigerant must be removed from the section to be worked on before a valve, strainer, or other device is opened or removed. Flanges with ODS connections are not suitable for ammonia service.

Warranty

All Refrigerating Specialties products are under warranty against defects in workmanship and materials for a period of one year from date of shipment from factory. This warranty is in force only when products are properly installed, field assembled, maintained, and operated in use and service as specifically stated in Refrigerating Specialties Catalogs or Bulletins for normal refrigeration applications, unless otherwise approved in writing by the Refrigerating Specialties Division. Defective products, or parts thereof returned to the

factory with transportation charges prepaid and found to be defective by factory inspection, will be replaced or repaired at Refrigerating Specialties option, free of charge, F.O.B. factory. Warranty does not cover products which have been altered, or repaired in the field, damaged in transit, or have suffered accidents, misuse, or abuse. Products disabled by dirt or other foreign substances will not be considered defective.

The express warranty set forth above constitutes the only warranty applicable to Refrigerating Specialties products, and is in lieu of all other warranties, expressed or implied, written including any warranty of merchantability, or fitness for a particular purpose. In no event is Refrigerating Specialties responsible for any consequential damages of any nature whatsoever. No employee, agent, dealer or other person is authorized to give any warranties on behalf of Refrigerating Specialties, nor to assume, for Refrigerating Specialties, any other liability in connection with any of its products.

